

TRUCK & TRAILER *Specialties, Inc.*

900 Grand Oaks Drive | Howell, MI 48843 | www.ttspec.com | ph: (517) 552-3855 | fx: (517) 552-3666

February 21, 2023

City of Rochester Hills
511 East Auburn Road Rochester Hills, MI 48307
Attn: Nick Watterson, ph: (248) 808-0774
HQ0003491

Equipment Quotation

Pricing based on RFP-RH-20-023 Tandem Axle Truck.

Each major item is based on pricing submitted for RFP. City staff have determined items for build.

Install SwapLoader Hooklift hoist model #SL-412 including the following:

40,000 lbs. dumping and lifting capacity with gross weight evenly distributed in and/or on container/body
Hooklift shall be able to handle skid-mounted containers/bodies with lengths of 12-15'

Hooklift shall have a minimum of 60-degree dump angle

Skid-mounted containers/bodies shall be supported with a pair of 6 1/4" minimum diameter outside flanged rollers at the rear of the hoist, and be adjustable to accommodate bodies/containers with outside subframe rail widths of 40-1/2" or 41-5/8"

Hooklift operation:

The lift shall adjust weight distribution of the container/body horizontally on the chassis while remaining in the body locks and without lifting the container/body rails off the hoist frame

Hooklift has a dual rear pivot section incorporated into the hoist design to allow for both a true dump truck operation, with the container/body secured to the hooklift via body locks during the entire dump cycle, and increased mounting leverage at the beginning of the container lift cycle

Hooklift jib to reach rearward to the A-frame lifting bar by means of double articulating hinge points (dual rear pivot) incorporated into the hoist mechanism

All lift sections shall lock into a common rigid full-length frame to support the body/container when in a dump mode. This must be accomplished by mechanical operated latches, which lock the mast

It has a jib lockout valve to prevent jib operation while in dump mode

Hydraulic cylinders:

Dump/lift cylinders are double acting, twin cylinders, sized for the unit capacity with dual integral counterbalance valves. Dump/lift cylinders are 6" bore, 3" rod diameter and 56" stroke

Telescopic jib cylinder shall be double acting, single cylinder, sized for unit capacity with a single counterbalance valve. Jib cylinder to be a 4" bore, 2 1/2" rod diameter and 30" stroke

Hydraulic operating pressure will not exceed 3600 PSI

Mainframe design:

The mainframe of the hoist is constructed of a "Z" rail configuration

The "Z" rail mainframe is a maximum of 10 1/2" in height and constructed of 1/4" thick A572 50 KSI steel

Hoist "Z" frame rails to include 6 (or 3 per side) 11-3/4" x 2-3/4" x 1/2" Nylatron wear pads for container/body support

The Nylatron pad will allow the containers/bodies to slide back and forth horizontally on the "Z" rail of the hoist with ease

Jib hook design:

Vertical Jib is constructed of a 9" x 9" x 1/2" wall square tube of A500 50 KSI steel

Jib hook height is adjustable to either 53-7/8" or 61-3/4" from the bottom of the container/body subframe rails to the bottom of the A-frame lift bar

Pins:

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All hooklift pins are constructed of high-strength CFR steel bar

All pinned connections are greaseable to both lubricate the joint and flush out all contaminants

Body locks: Hooklift has passive integral slide through body locks to secure the container/body latch plates to the hooklift in dump and transport positions; to accommodate different length bodies and to allow for weight distribution changes while remaining in body locks when in the transport or in dump cycle

Hooklift warranty:

The complete mechanism, including hydraulics, will be factory warranted free of defects in material and workmanship for a period of forty-eight (48) months on parts, and twelve (12) months on labor from the date of installation

Origin of Manufacture:

Hooklift is engineered, manufactured, and assembled in the U.S.A.

Install Central Hydraulic System including the following:

Rexroth front-mounted load-sense piston pump = A10VO100DFR

Pump is 100cc displacement

Front bolt-on crossmember for pump mounting

Spicer 1310 drive line with companion flange for easy removal

Low oil shutdown valve and override circuit

Rexroth 10m4-12 mid inlet load-sense hydraulic valve with pressure-compensated flow controls for the following functions:

EPC section for scraper up/down with load-sense limit

EPC section for scraper swing

EPC section for front plow

EPC section for front plow angle

EPC section motor-spooled for hoist up/down with 500 PSI A- port load sense limit

EPC section cylinder-spooled for jib in/out with 500 PSI A- port load sense limit

EPC section for wing in/out

EPC section for auger

EPC section for spinner

EPC asymmetrical section for pre-wet/anti-ice

Power-beyond end cover for blade saver circuit

Blade saver hydraulic valve will be installed in the front plow lift circuit

All hoses are Parker 387 Tough cover hose

Parker SH series stainless steel hydraulic couplers for spreader circuit disconnect and plow-reverse circuit

Install Monroe 44-gallon Hydraulic Oil Reservoir/Valve Enclosure Combination unit including the following:

Type 201 stainless steel construction (mos. 00155229-B & 15570)

Mounted behind cab above frame with ship and car channel mounting brackets

Tank-mounted Zinga-type return filter

2" suction line with a 100-mesh suction strainer

Ball valve shutoff on hydraulic tank for case drain and suction ports

18" Low oil sensor mounted inside the tank

44-gallon oil capacity, filled with 35-gallon AW32 hydraulic oil

Tank is full of AW32 hydraulic oil

Sight gauge/Temperature gauge

Tank label

Stainless steel step installed on the end of the tank

Bulkhead plate on back side of tank for stainless steel couplers for V-box and anti-ice attachments

7-way round pin for attachment lighting

7-way RV plug for anti-ice circuits

Install Monroe Underbody Scraper Leg Kit and plumbing kit including the following:

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Mounting hardware

Two (2) ¾" x 35" wide solid hanger plates/legs

Includes all plumbing to the scraper

Install Rexroth CS660 Electric Spreader Controller including the following:

Touch screen

Closed-loop operation for spreader, spinner, pre-wet and anti-ice operations

Programmable blast and pause

Data download and programming is with a thumb drive

WiFi & GPS capable to integrate with CS660 controller

Left/Center/Right Aux boom switches mounted to the CS660 controller

Install Rexroth CS160 Electric Joystick Controller including the following:

Arm-type mounting unit or pedestal mount

6 button control includes: 1 button for pause, 1 button for blast, 1 button for hoist & jib, 1 button for plow up/down and swing, 1 button for scraper up/down and swing, 1 button left open for wing

Control console switches for: power float on/off, tailgate (switch-lock type), tarp in/out, low oil override/shutdown, body-up indicator light

System is laptop programmable

System also includes automatic "up-in-reverse circuit" for the scraper when chassis is in reverse

Adjustable accessory bracket for Motorola mobile radio location on console

Install Monroe QCP Loop Plow-Portion Front Hitch including the following:

Channel front bumper with steps and tapered ends

Stainless steel open grating in area between bumper and grille, over the pump

Two (2) stainless steel gripstrut stirrup steps, one on each side of bumper

Relocate front tow hooks, mounting on kicker legs

4" DA lift cylinder with Socatri rod

Pressure-release valve for plow swing mounted on streetside behind bumper

All necessary supports and braces

Includes stainless steel couplers and hoses for plow swing

Install Custom Lighting & Electrical including the following:

Utilize chassis 6 upfitter switches for the following:

Truck flashers, scraper work lights & spreader work lights

Indicator lights for: low oil (red), body-up (amber) in joystick armrest

One (1) SoundOff Pinnacle (mo. EPL7PDPC) amber/green LED mini lightbar on cab roof riser with WP

Two (2) 4" Weldex LED work lights mounted above the scraper

Two (2) 4" Weldex LED work lights mounted on chassis

LED marker lights on rear corner of dump, 3-light cluster mounted by the hinge

Maxxima LED MaxxHeat Heated Headlights (mo. MHLE-07HILO-MH)

LED Heated Plow Lights (mo. 9060) with aluminum brackets mount at 68" from base of lights to ground

Proximity switch for body-up light

Betts junction box mounted at the rear

Backup alarm included

Install Frame-mounted (3) hole 6" oval stainless steel light bars at chassis rear including the following:

LED STT lights, LED back-up lights & SoundOff LED nForce (mo. ENFSLSRV12) amber/green flashers

Side-facing SoundOff LED mPower (mo. EMPC2SMS4) amber/green flashers one on each side of It boxes

Tarp plug, air gate coupler and lighting plug mounted on streetside lightbox for attachment plug-ins

Add disable for hoist and jib at plug at the front

Install Protech Stainless Steel Fenders for Tandem Axle chassis including the following:

14-gauge 304 stainless steel

Stainless steel mounting hardware

Mudflaps mounted at the bottom of the fenders

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Price includes prep and paint of all non-stainless material, front bumper, frame rails as needed and hoist
Installed pricing: \$106,098.00 ea. (Qty: 2 = \$106,098.00x2=\$212,196.00)

HQ0003492

Option Install RoadWatch Temperature Sensor including serial cable and adaptor to integrate into CS660 controller. Includes a stainless steel mirror mounting bracket, driver's side

Option installed: \$1,280.00 ea. (Qty: 2 = \$1,280.00x2=\$2,560.00)

HQ0003494

Install Monroe 12' model MS4512 Underbody Scraper including the following:

- 1" thick x 20" high moldboard
- ½" thick hanger board with grease manifold brackets installed
- 2-1/2" O.D. hinge shaft
- Two heavy-duty shock absorbers
- Bolt-in trunnion caps for canisters; Outer arm remains bolt-on style
- Two 3-1/2" x 10" actuating cylinders; Socatri rods
- Cushion valve
- 1" solid circle with 5" center pin
- Center pin is piloted into hanger board
- Two 4" x 12" reversing cylinders; Socatri rods
- Three hinge anchor points
- Stainless Steel Hydraulic pipes for actuating cylinders
- 20.5" x 7" poly hold-down blocks
- Parts-installation manual
- Grease line kit with manifolds

Installed pricing: \$16,714.00 ea. (Qty: 2 = \$16,714.00x2=\$33,428.00)

Option Install Monroe 12' model MS4512 Underbody Scraper with 1' bolt-on extension on curbside (offset 11')

Option installed: \$676.00 ea. (Qty: 2 = \$676.00 x 2 = \$1,352.00)

HQ0003495

Install Monroe 9' Para-Glide Patrol Wing for tandem axle chassis including the following:

- Moldboard inboard shall be 33" and outboard height to be 33"
- Both inboard and outboard measurements include the 8" cutting edge installed
- Moldboard shall be 3/16" A36 steel
- Moldboard includes a 4" x 4" x ¾" bottom angle
- Top of moldboard shall be formed into a 2-3/4" x 1" channel for additional strength
- Para-Glide style wing post mounted behind the scraper
- Wing post shall be of a trailing link style with 12" of lift and designed to allow the moldboard to float up a minimum of 8-12" when in the plowing position
- Banjo plate includes captive design feature
- Twin rear-mounted, cushioned push-arms with rear lift cylinder to operate the heel
- Push-arms includes bolt-in design and grease zerks for ease of maintenance
- Moldboard is powder-coated Orange
- D-type rubber bumper stops
- Safety chain at rear
- 5" x 7" rear crosstube for rear wing support
- Sequencing valve with hoses and couplers
- Install stainless steel light box on the wing moldboard with a SoundOff nForce (mo. ENFSLSRV12)

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amber/green flasher light pointed rearward and an LED marker light pointed forward
5/8" x 8" x 108" reverse-curve steel cutting edge
Stainless steel couplers for wing circuits
Includes two (2) TTWS wing shoes

Installed pricing: **\$17,925.00 ea.** (Qty: 2 = \$17,925.00 x 2 = \$35,850.00)

HQ0003496

Option Install LaserLine GL3000PMC Wing Plow Guidance Laser including the following:

Green "ultra-bright" laser assembly enclosed in weatherproof housing
Heated front window lens to reduce or eliminate icing
Pneumatic air blast mechanism for lens, blasting every 5 seconds
Control switch installed in-cab for laser on/off and air blast on/off
Laser assembly installed on roof of cab

Option installed: **\$3,265.00 ea.** (Qty: 2 = \$3,265.00x2=\$6,530.00)

Install Groeneveld Automatic Greasing System including the following:

Groeneveld EP-0 Automatic Grease System for tandem axle chassis with standard dump body with telescopic hoist and underbody scraper
60cc pneumatic pump in lieu of standard 42cc
Standard 4-liter reservoir
Custom fabricated pump mount bracket to fit equipment configuration
LED indicator display in cab area
Green light on when system is in pump mode
Yellow light on when low level grease switch is triggered. Will shut off pump until reservoir is refilled
Red light warning if system should have a cycle with no back pressure
Timer to accommodate light warning in lieu of standard
Pump to accommodate light warning in lieu of standard
Includes 43 total points on equipment
Includes 34 total points on chassis
All necessary plumbing, manifolds for front suspension, rear suspension, kingpins, slack adjusters, s-cams, clevis pins, tie rods, draglink, spring pins, underbody scraper, and dump body with telescopic hoist

Installed pricing: **\$8,600.00 ea.** (Qty: 2 = \$8,600.00x2=\$17,200.00)

Option Install Groeneveld Automatic Greasing System including the following: (includes Wing and SwapLoader)

Install points for SwapLoader hooklift models SL-2418 or SL-412 in lieu of standard dump body
Includes hard plumbing or hydraulic line to main rear rollers
Does not include points where clearance prohibits remote line and fittings
Does not include attachments being used in conjunction with hooklift system

Option add: **\$809.00 ea.** (Qty: 2 = \$809.00 x 2 = \$1,618.00)

HQ0003497

Install Skid-mounted Crysteel Select 14' Stainless Steel Dump Body including the following:

168" length, 60" front height, 36" side height, 42" rear height, 84" inside width
Single panel, pressed-in horizontal side braces
7-gauge 201 stainless steel front, sides and rear pillars
¼" AR450 floor
18" wide rear pillar
9-panel tailgate design constructed of 7-gauge type 201 stainless steel
Tailgate finger latches and pivot plate are stainless steel construction
8" floor-to-sides radius

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- 9" cabshield constructed of 10-gauge type 201 stainless steel
- Install 12" hardwood sideboards
- Install side-mounted ladder, fold-down on driver-side rear with interior dump step
- Install one (1) shovel holder & one (1) rake holder
- Install banjo-style chain holders on tailgate
- Single-acting "pancake-style" air cylinder for air tailgate with stainless steel coupler mounted at rear
- Install Custom Lighting including the following:**
 - 3-hole tapered stainless steel light boxes mounted at rear pillar posts
 - Two (2) SoundOff LED green flashers mounted in top holes
 - Two (2) SoundOff LED stop/turn/tail lights mounted in the middle holes
 - Two (2) SoundOff LED amber flashers mounted in the bottom holes
 - LED body marker lights
- Install Roll-Rite Automatic 6400 Tarp including the following:**
 - Plug in at the back driver side for clearance when dumping Mesh-type tarp material
 - Tarp housing mounted on top of cabshield
 - Tarp arms mounted center of the dump with elbows to clear wing when rolling off
- Install SwapLoader skid assembly for model SL-412 including the following:**
 - Front A-frame and longsills for body mounting, A-frame lift bar set at 54"
 - Skid with rear heavy-duty 6" roller drums, painted Black, mild steel construction
- Paint Dump underbody and attaching hardware painted Black**
- Installed pricing: \$36,475.00 ea. (Qty: 2 = \$36,475.00x2=\$72,950.00)**

HQ0003498

- Install Skid-mounted Monroe MCV-168-84-56-SF1 Dual Auger Combination Spreader including the following:**
 - 168" (14') hopper length, 84" outside hopper width, 56" high hopper
 - 10-gauge 201 stainless hopper sides and ends
 - 7-gauge 201 stainless longsills
 - Vertical side braces; 201 stainless steel, on approximately 24" centers
 - 2' sloped front and doghouse for hook/loop
 - Dual 7" augers with planetary drive
 - Integral speed sensor in one auger motor
 - Inverted-V installed over augers; 201 stainless
 - Bolt-on top screens with center H-beam installed, mild steel, powder Black
 - Stainless steel front spillshield, installed
 - Stainless steel fold-down ladder, side-mounted at front, passenger-side
 - Tip-up rear spinner assembly, 201 stainless, poly disc, hinged unload door
 - Spinner assembly includes seal saver kit
 - Front bearing grease extensions to rear
 - Stainless steel hydraulic pipe kit for augers/spinner/pre-wet/return, installed and plumbed to the left front corner of the body with jumper hoses and stainless steel couplers
 - Wire sensors to with WP electrical disconnects to the front of the body with electrical connections
- Install Monroe Closed-Loop Pre-Wet System including the following:**
 - 7 GPM bronze pump with Dickey-john flow meter
 - Enclosure mounting kit, 201 stainless
 - 450-gallon liquid capacity (twin 225-gallon tanks) with stainless steel brackets
 - Spraybar in auger trough
 - Remote vent kit for liquid tanks
 - Bulk fill kit with 2" camlock
 - Flusher kit
- Install 66" SS lightbar kit for the body including the following:**

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Two (2) 6" oval SoundOff LED nForce (mo. ENFSLSRV12) amber/green flashers & two (2) 6" oval SoundOff LED STT lights

Seven (7) LED marker lights

Lights wired to junction box and wiring extended to the left front corner for hook up with a plug

Install SwapLoader skid assembly for model SL-412 including the following:

Front A-frame and longills for body mounting, A-frame lift bar set at 54"

Skid with rear heavy-duty roller drums on long legs, hot-dip galvanized steel construction

Install ½ poly between V-box and SwapLoader skid

Long leg provides the ability to unload the v-box skid without tipping up the spinner

Installed pricing: \$54,920.00 ea. (Qty: 2 = \$54,920.00 x 2 = \$109,840.00)

Option V-box bolt-on top screens with center H-beam installed, Galvanized

Option add in lieu of powder-coated Black: \$825.00 ea. (Qty: 2 = \$825.00 x 2 = \$1,650.00)

HQ0003499

Install Skid-mounted Monroe 2,350-gallon Anti-Ice Tank assembly including the following:

Polyethylene leg style tank with tank hold-down hardware

Tank includes center wall baffle system (no baffle balls included in price)

Three-lane, closed-loop, non-tiered plumbing kit

190 GPM centrifugal pump with hydraulic motor

Raven flow meter

Three-lane electric boom valves

Install three (3) switches mounted at controller in-cab for left, center and right boom control

Plumb hydraulic circuit from the rear to left front corner of skid for hookup and disconnect behind the cab

Wire boom valve circuit, flow meter circuit and lighting circuit from rear of skid to left front corner of the skid for hook up behind the cab

Wire circuits to the front of the body for accessory lighting

Lights wired to a junction box and wiring will be extended to the left front corner for hook up with a plug

Install Betts Dri-seal junction box for wire termination and pigtail outlets

3" bulkfill at the front curb side

Install Two (2) 2-hole stainless steel light boxes at the rear of the body including the following:

SoundOff LED nForce (mo. ENFSLSRV12) amber/green flashers & SoundOff LED STT lights

Lights wired to junction box and wiring extended to the left front corner for hook up with a plug

Install winch for spraybar raise and lowering

Install SwapLoader skid assembly for model SL-412 including the following:

Front A-frame and longills for body mounting, A-frame lift bar set at 54"

Skid with rear heavy-duty roller drums on long legs, hot-dip galvanized steel construction

Installed pricing: \$33,325.00 ea. (Qty: 1 - \$33,325.00x 1=\$33,325.00) *Will be shared between both trucks

Option Install Dust Control Upgrades for the Anti-Ice Tank including:

2nd spray bar 2" for dust control with separate boom valve, flowmeter for dust control & summer nozzles

Option add for Dust Control Upgrades: \$3,975.00 ea. (Qty: 1 = \$3,975.00 x1=\$3,975.00)

*Will be shared between both trucks

HQ0003500

Install Rearview Camera with Wash System including the following:

Camera system, mounted on rear chassis lightbar

System tying into chassis wiper fluid reservoir

Chassis wiper controls for activating wash system, momentary in-cab switch for air puffer

Air puffer & washer fluid tubing

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VCMS24B color camera
CEC34L1 main cable for monitor
VOSHD6MNT LCD monitor mount
MSF5000 stainless steel camera box
VOM719WP 7" LCD color monitor

Install Rear Hitch Assembly including the following:

¾" rear hitch mounting plate (no chassis STT light cutouts)
PH30 Pintle hook, multi-drill pattern – 30-ton rated height 24" to cradle
Rear tow hooks to outside of frames
D-rings for safety chains
7-way RV plug
7-way round pin plug
Remount chassis Glad Hands

Install Electric Brake Controller

Install Minimizer Floor Mats for Freightliner (mo. FKFRTL2B-MIN / 10002265)

Install Two (2) SoundOff LED mPower (mo. EMPC2SMS4) amber/green flashers mounted in chassis grille

Install the following upgrades to MS4511 Underbody Scraper including:

Install Kennametal single-insert carbide cutting edges
Install Kennametal carbide curbguards, both ends of moldboard
Install serrated step on end of moldboard, streetside
Install Ray Stop moldboard savers on turntable

Install Cougar model 3200 DC box vibrator on Crysteel Dump

Install One (1) curved carbide curbguard (TTS part# 4191060) for Wing Plow

Install One (1) 36" Tribal Whip (mo. 36WG) green LED light stick on Wing Plow, laid down

Paint All body underfloor, frame attachments, hoist, front hitch and rear hitch assembly Black
All stainless steel material non-painted

Installed pricing: \$7,985.00 ea. (Adds not listed in contract) (Qty: 2 = \$7,985x2=\$15,970.00)

Chassis requirements to be confirmed prior to order entry:

CT: 138"
SCR and DPF mounted back of cab
50-gallon fuel tank mounted under the driver's door
Battery box behind the cab on the left side of the frame- mount box as far rearward as possible
DEF tank mounted behind the fuel tank on left side of frame
Plow light/Headlight switch and related OEM wiring
Delete OEM front bumper
Front frame extension
Front of engine PTO provision
Stationary grille
6 dash-mounted analog switches for lighting functions
High ground clearance for scraper package
Trailer pre-wiring to rear for air & electrical brake controller

Minimum full 1-year warranty on parts and labor on all equipment.

Payment Terms: Net 30. Pricing effective for 30 days.

Pricing does not include any of the Rochester Hills RFQ discounts that may be applicable.
2% discount off total taken at invoice if payment received within 30 days.

FOB: City of Rochester Hills

Delivery: 420-450 days ARO, depending on chassis arrival

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Thank you for the opportunity to quote.

Respectfully submitted by,
Jon Luea/Brian Bouwman